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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,244	10/24/2003	Takatoshi Tsujimura	CMO.0012US (92096US)	1416

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TROP PRUNER & HU, PC
8554 KATY FREEWAY
SUITE 100
HOUSTON, TX 77024

EXAMINER

TUROC, DAVID P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/693,244

Applicant(s)

TSUJIMURA ET AL.

Examiner

David Turocy

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 09 March 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-18 and 26-30.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☒ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Detailed Action.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The applicant's amendments, filed 3/9/2006, have been amended to include new limitations that were not present in the finally rejected claims and therefore would clearly require further search and/or consideration. Therefore the examiner has not entered the amendments.

Response to Arguments

2. Applicant's arguments filed 3/9/2006 have been fully considered but they are not persuasive.

The applicants have argued against the 35 USC 112 1st paragraph rejection regarding scope of enablement, stating the examiner has not established that a person skilled in the art could not use the genus as a whole without undue experimentation. The examiner respectfully disagrees and maintains the position that while the specification clearly enables one of ordinary skill in the art that a first gas of SiH_4 and a second gas of H_2 using the process as claimed will result in depositing a microcrystalline film during the second process. The specification does not provide additional direction or working examples to one of ordinary skill in the art to provide any combination of various gases, each of which is within the scope of the claimed invention, to deposit a microcrystalline film during the second process without undue experimentation in determining which combination of the two gases selected from the entire genus of gases, supplied in the method as claimed, will result in depositing a

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microcrystalline thin film in the second process. The breadth of the claim clearly encompasses all gases, but the specification does not give direction, other than a first gas of SiH_4 and a second gas of H_2 , to provide a microcrystalline thin film in a second process and therefore one ordinary skill in the art would be required to do undue experimentation to determine which combinations of gases result in a microcrystalline thin film.

As for the 35 USC 112 1st paragraph rejection of claims 26-28, the examiner maintains the above as well as maintains that the specification does not provide additional direction or working examples to one of ordinary skill in the art to provide any combination of various gases at any of a multitude of flow rates, each of which is within the scope of the claimed invention, to supply a flow rate ratio to prevent an amorphous film deposition.

The examiner notes the use of the generic first gas and second gas in the specification; however, such a broad disclosure does not provide enablement for the entire genus of first and second gases to deposit a microcrystalline thin film in a second process as presently claimed.

The applicants have argued against the Nakata '349, stating the reference clearly discloses depositing amorphous silicon during the first process and does not disclose the microcrystalline thin film in the second process. In addition the applicant has argued against the combination of Nakata '349 with Nakata '062 stating that there is no motivation to modify '349 with '062. While the examiner agrees Nakata '349 discloses depositing an amorphous silicon during the first process, however, the examiner notes

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the claim as written does not require there to be no amorphous deposition during the first process. Additionally the examiner notes the process as taught by Nakata '349 does not teach of depositing a microcrystalline thin film in the second step, it is the examiners position that after stopping the flow of SiH_4 , the process of Nakata '349 inherently results in at least a quantitative amount of continual deposition, during the second step, at which H_2 is maintained at a constant rate, due to the presence of SiH_4 and H_2 remaining in the process chamber. In addition, residual SiH_4 remaining in the process chamber with the constant flow of H_2 will result in a H_2 to SiH_4 dilution ratio to deposit a quantitative amount of microcrystalline thin film directly from the vapor phase, See Nakata '062 which discloses adjusting the hydrogen dilution ratio to deposit microcrystalline thin films directly from vapor phase (Column 5, lines 20-25). Therefore the examiner has not modified Nakata '349 with Nakata '062, but rather has supplied Nakata '062 as a showing that the certain H_2 to SiH_4 dilution ratio results in a microcrystalline thin film. In addition, the examiner has noted stopping the flow of SiH_4 with continual H_2 flow, will in time result in a dilution ratio, due to the residual SiH_4 remaining in the chamber, as described by Nakata '062 and result in a quantitative amount of microcrystalline thin film directly from the vapor phase.

The applicant has argued against the examiners combination of Nakata '349 with the admitted state of the art on page 3 of the specification, stating there is no motivation to combine the reference with the background as supplied by the applicant. The examiner notes however, that the examiner has not modified Nakata '349 with the admitted state of the art, but rather has supplied the admitted state of the art as a

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showing that applying a high-energy electric field to the SiH_4 results in breaking the SiH_4 down into a more reactive SiH_2 .


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Turocy
AU 1762


TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER